Low Cost, Shock Hardened Recorder

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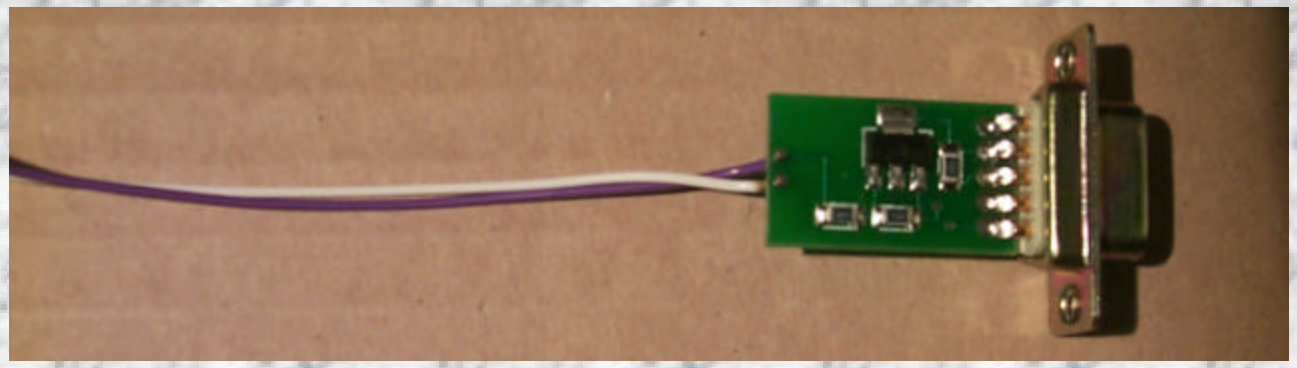
Overview

- Low cost data recorder with non-volatile memory, capable of operation through high shock environments
- User configurable input modes
- Simple serial data interface for downloading stored data



Features & Benefits

- Non-Volatile Memory
  - 100 Year Data Retention Over Industrial Temperature Range (-55 to +150 storage, -40 to +85 operational)
  - Auto Recall During Power Up
  - Auto Store During Power Down
  - SRAM and EEPROM
  - 16 x 32k data storage

Features & Benefits

- Configurable
  - Single 16-bit Analog Channel
  - Single 12-bit Analog Channel and 4 Digital Channels
  - Single 8-bit Analog Channel and 8 Digital Channels
  - Jumper Selectable Sample Rate

Features & Benefits

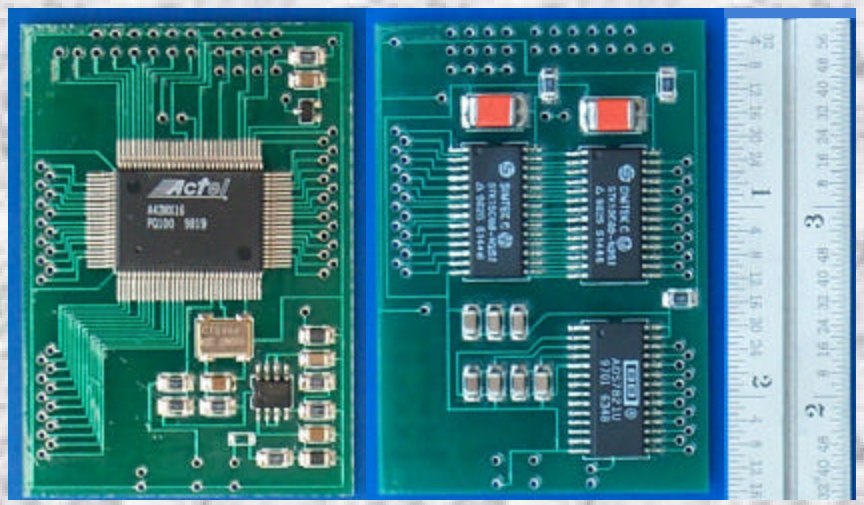
- Easy to use 5-Wire Interface
  - RS-232 Serial Connection for Download
  - Wide Input Supply Voltage (7 to 35 Volts)
  - Single Wire for Trigger/Mode Input
  - Data Stored in Spreadsheet Format by Reader Software

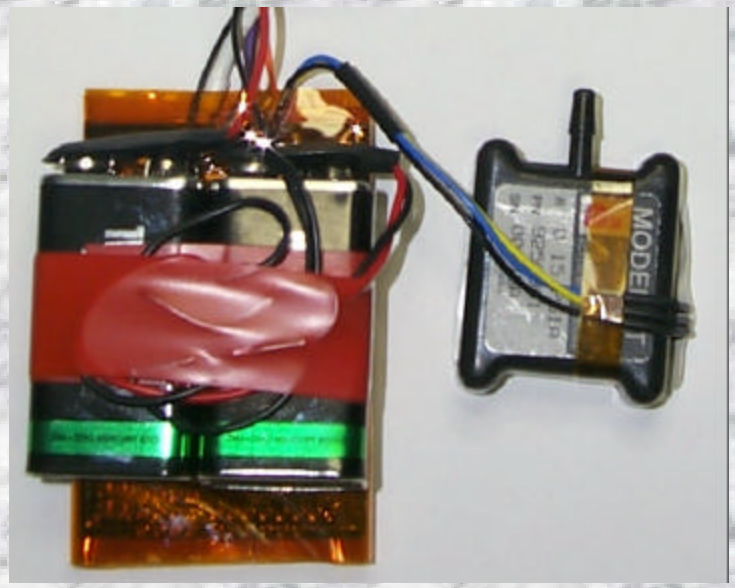
Features & Benefits

- Alternative Configurations
  - Expanded Memory Version (4x)
  - Low Voltage Version (2 to 9 Volts)
  - On-Board Signal Conditioning Version
    - Differential Input
    - Programmable Gain Stage
    - Low Pass Filter (fc = 1/10 Sample Rate)
  - Serial Data Capture Version

Applications

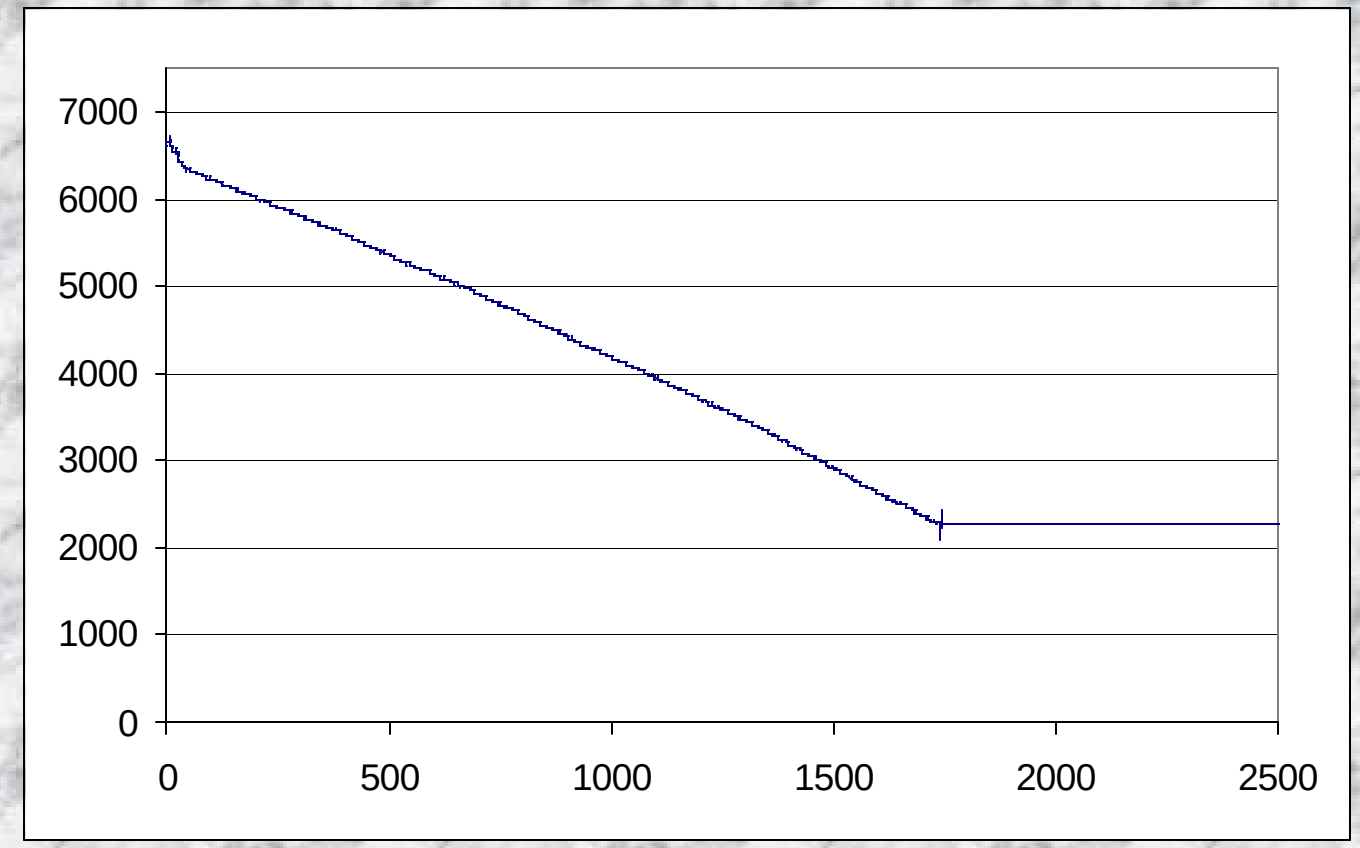
- Parachute Drop Testing
  - Low Cost
  - Compact and Light Weight
  - Simple





Applications

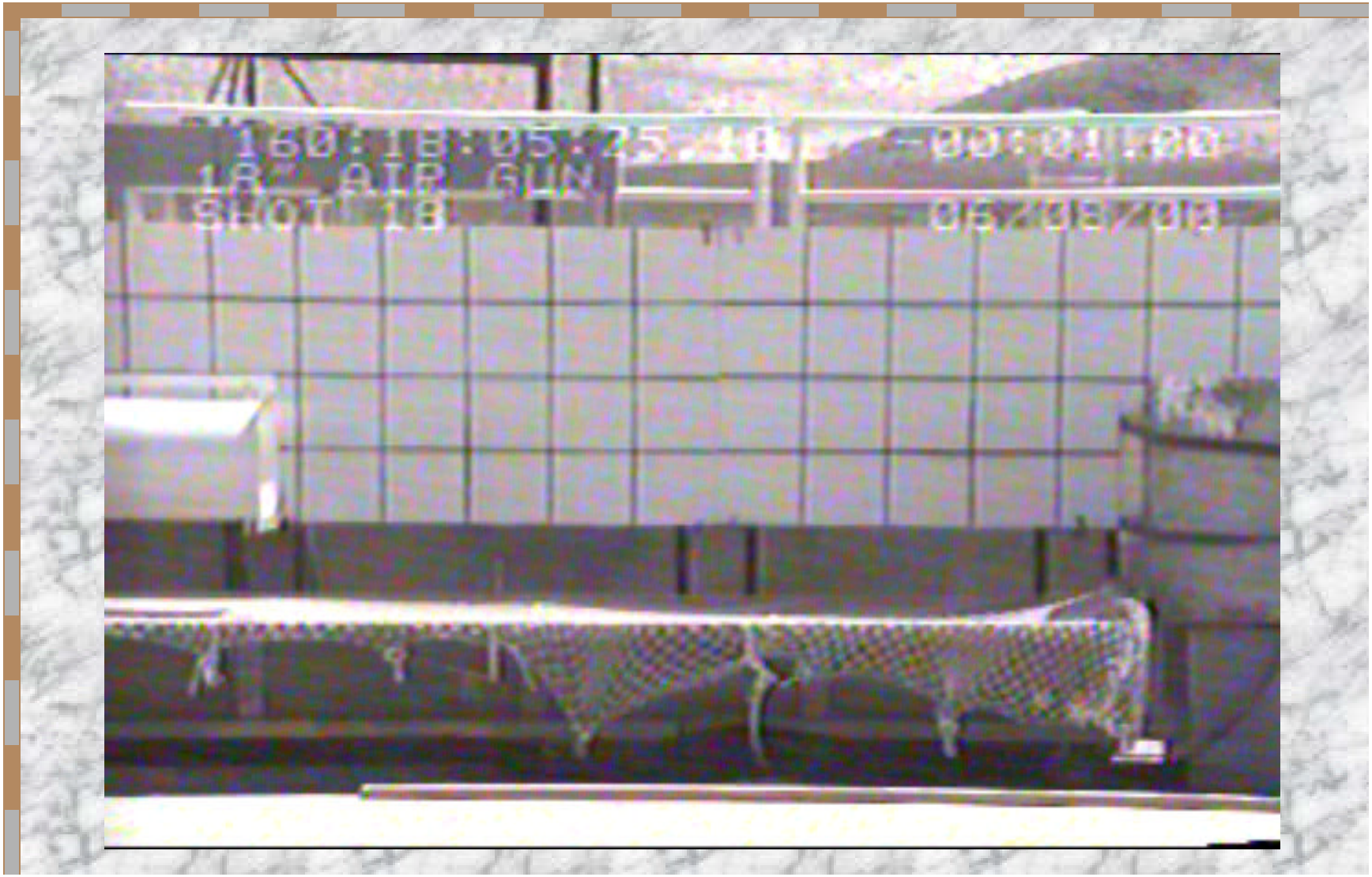
- Drop Test Data



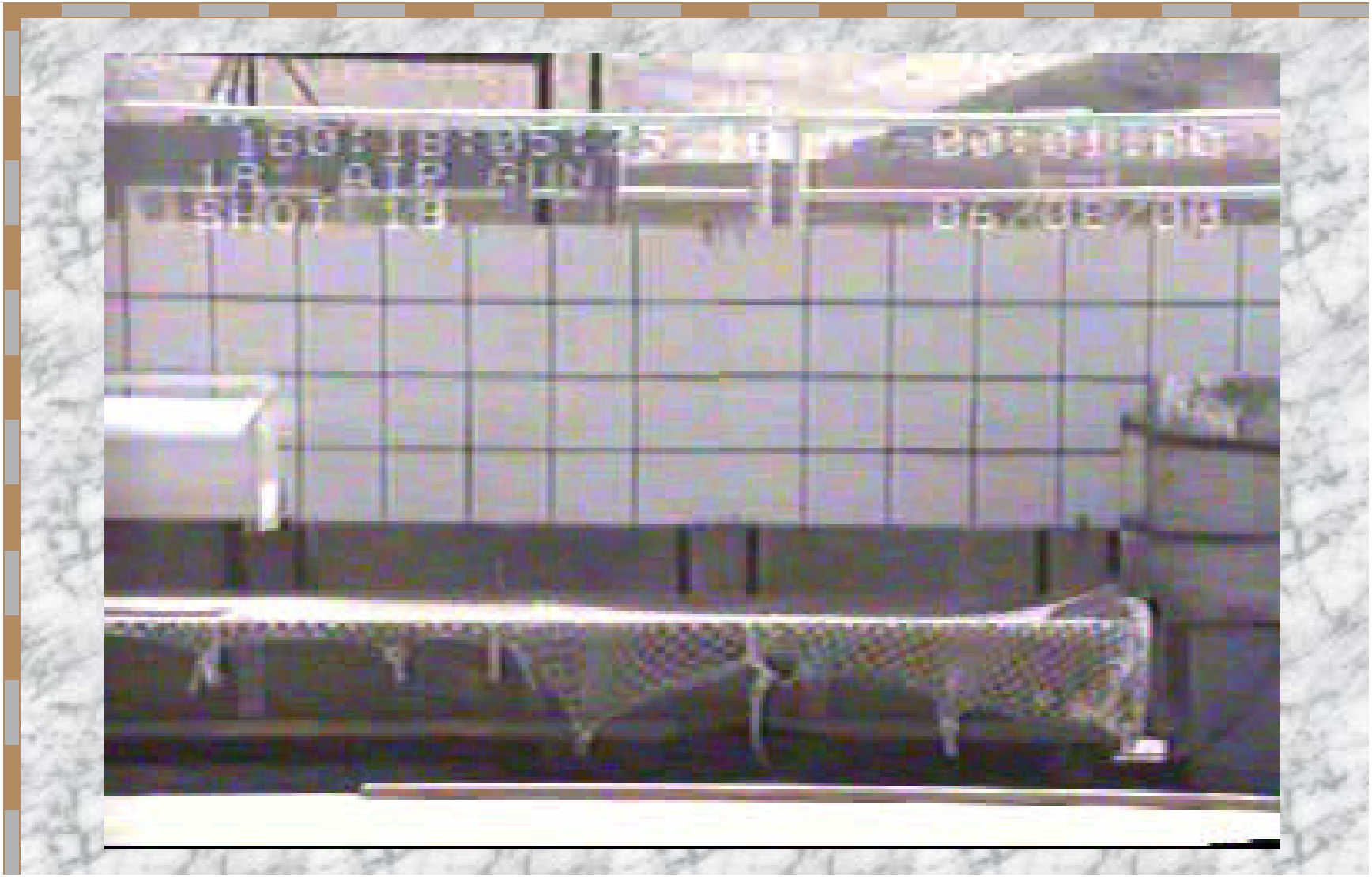
Applications

- Air Gun Test
  - Shot into honeycomb aluminum
  - Velocity: approximately 150 ft/sec
  - Diameter of ball: ~ 6 inches

Applications

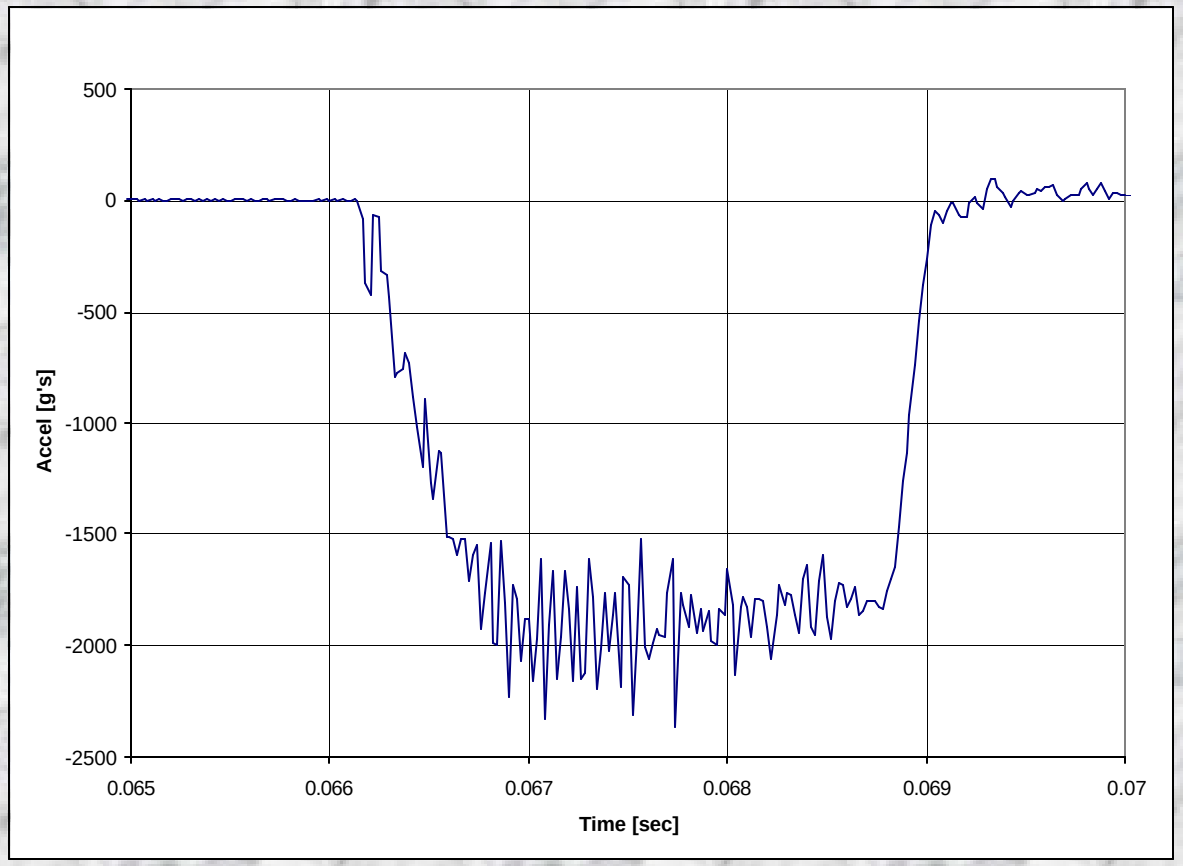


Applications



Applications

- Air Gun Test Data



Applications

- Penetration Testing
  - Scaled Model
  - Super-Sonic
  - Multiple Media

Specifications

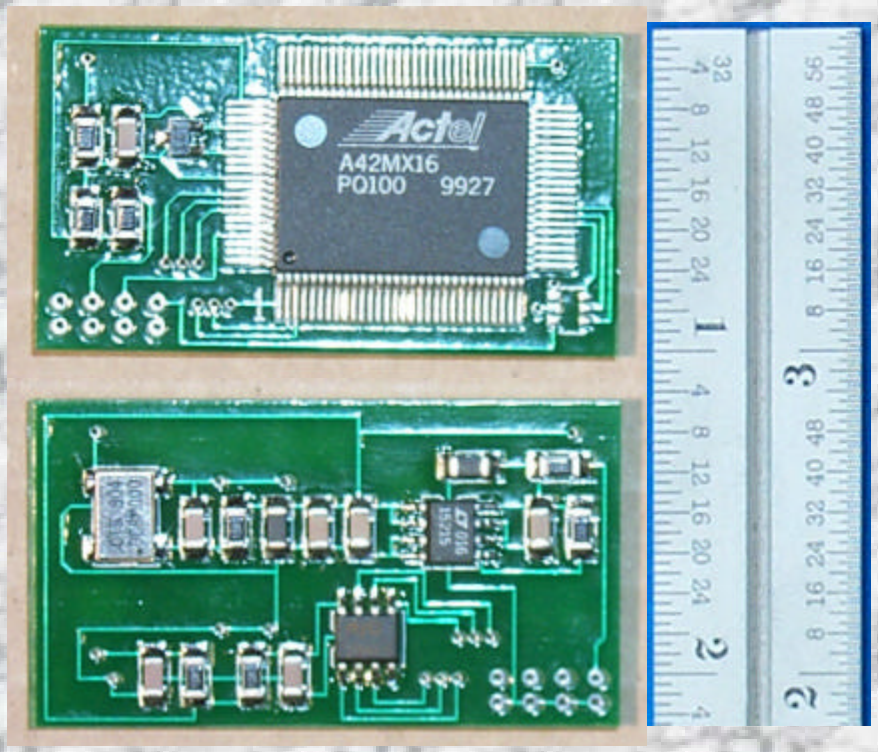
- Memory: 16 x 32k, Non-Volatile.
- Sample Rate: 100k, 10k, 1k, 100 samples per second
- Record Time: 0.328 s, 3.28 s, 32.8 s, 5.44 min
- Input Signal Voltage: 0 to 5 V
- Current Draw: 500 uA (sleep)/ 60 mA (active)
- Data Sheet Available Upon Request

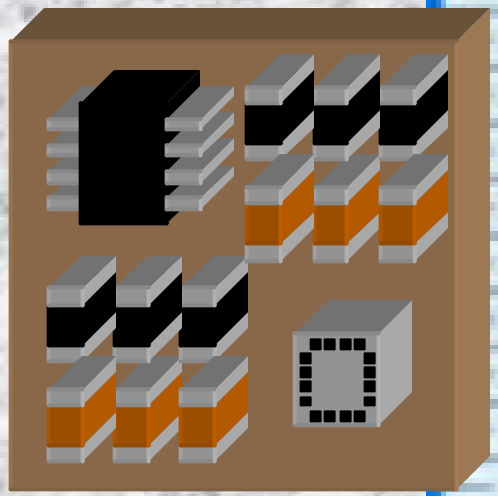
Parts Cost

- Parts cost is $200 to $250 per unit in small quantities.
  - Analog to Digital Convertor - $35
  - Field Programmable Gate Array - $30
  - Non-Volatile Memory - $30
  - Printed Circuit Boards - $25
  - Oscillator - $8 to $15

Future Plans

- Smaller Size
- Lower Power
- ASIC Version





Summary

- Survives Shock of Penetration
- Easy to Use Interface
- Low Cost
- Versatile
- Simple